

STATUS REPORTS

ELECTRIC RELIABILITY

Los Alamos County Utilities



Electric Distribution Reliability

October 17, 2018

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Date	Call Rcd.	Circuit	Cause	Start Time	End Time	Duration	Customers Affected (Meters)	Combined Customer Outage Durations	Total Outage H:M:S	Running SAIDI
10/5/2017	Utilities	15	Tree	16:00	16:15	0:15	10	2:30:00	2:30:00	0:00:01
10/27/2017	Utilities	18	Planned	8:30	9:30	1:00	1	1:00:00	3:30:00	0:00:01
11/24/2017	Dispatch	TC2	Supply line Failure	2:54	6:03	3:09	2264	7131:36:00	7135:06:00	0:47:20
11/24/2017	Dispatch	TC1	System Failure	3:53	5:59	2:06	4069	8544:54:00	15680:00:00	1:44:01
11/30/2017	Utilities	WR1	Planned	19:00	23:00	4:00	1	4:00:00	15684:00:00	1:44:02
11/30/2017	Utilities	WR1	Planned	19:00	0:30	5:30	5	27:30:00	15711:30:00	1:44:13
12/22/2017	Utilities	13	URD Failure	12:30	15:50	3:20	15	50:00:00	15761:30:00	1:44:33
12/27/2017	Utilities	13	URD Failure	18:30	21:07	2:37	1	2:37:00	15764:07:00	1:44:34
1/16/2018	Utilities	18	HUMAN	8:30	8:34	0:04	213	14:12:00	15778:19:00	1:44:40
2/3/2018	Utilities	13	Animal	1:30	2:30	1:00	8	8:00:00	15786:19:00	1:44:43
2/14/2018	Utilities	14	Planned	9:00	10:30	1:30	7	10:30:00	15796:49:00	1:44:47
3/8/2018	Utilities	WR2	Planned	9:30	11:00	1:30	7	10:30:00	15807:19:00	1:44:51
3/9/2018	Utilities	15	Unknown	13:00	14:00	1:00	6	6:00:00	15813:19:00	1:44:54
3/9/2018	Utilities	15	Animal	9:30	10:30	1:00	1	1:00:00	15814:19:00	1:44:54
3/10/2018	Utilities	WR2	Unknown	14:11	15:11	1:00	1	1:00:00	15815:19:00	1:44:55
3/16/2017	Utilities	WR1	Weather	16:30	17:30	1:00	5	5:00:00	15820:19:00	1:44:57
3/18/2017	Utilities	WR1	Weather	14:00	16:00	2:00	1	2:00:00	15822:19:00	1:44:57
3/12/2018	Utilities	13	OH Failure	12:30	15:07	2:37	22	57:34:00	15879:53:00	1:45:20
4/17/2018	Utilities	16	URD Failure	17:00	20:00	3:00	2	6:00:00	15885:53:00	1:45:23
4/26/2018	Utilities	WR1	Planned	9:50	12:20	2:30	7	17:30:00	15903:23:00	1:45:30
5/27/2018	Utilities	16	URD Failure	12:00	13:30	1:30	30	45:00:00	15948:23:00	1:45:48
5/30/2018	Utilities	WR2	Planned	9:05	11:05	2:00	8	16:00:00	15964:23:00	1:45:54
6/3/2018	Utilities	WR2	URD Failure	15:00	16:00	1:00	50	50:00:00	16014:23:00	1:46:14
6/3/2018	Utilities	WR2	URD Failure	15:00	16:45	1:45	27	47:15:00	16061:38:00	1:46:33
6/3/2018	Utilities	WR2	URD Failure	15:00	17:45	2:45	21	57:45:00	16119:23:00	1:46:56
6/12/2018	Utilities	13	URD Failure	20:45	9:30	12:45	15	191:15:00	16310:38:00	1:48:12
6/17/2018	Utilities	16	URD Failure	18:30	20:00	1:30	2	3:00:00	16313:38:00	1:48:13
7/15/2018	Utilities	14	URD Failure	23:30	5:30	6:00	30	180:00:00	16493:38:00	1:49:25
7/20/2018	Utilities	WR2	URD Failure	10:10	11:30	1:20	12	16:00:00	16509:38:00	1:49:31
8/7/2018	Utilities	13	URD Failure	20:00	1:00	5:00	50	250:00:00	16759:38:00	1:51:11
8/19/2018	Utilities	WR2	URD Failure	19:00	23:00	4:00	24	96:00:00	16855:38:00	1:51:49
9/1/2018	Utilities	WR2	URD Failure	5:00	8:30	3:30	21	73:30:00	16929:08:00	1:52:18
9/3/2018	Utilities	WR1	OH Failure	13:30	16:30	3:00	15	45:00:00	16974:08:00	1:52:36
9/4/2018	Utilities	WR1	Weather	17:50	19:30	1:40	15	25:00:00	16999:08:00	1:52:46
9/13/2018	Utilities	WR1	HUMAN	14:45	15:15	0:30	14	7:00:00	17006:08:00	1:52:49
9/13/2018	Utilities	WR2	URD Failure	9:30	11:15	1:45	24	42:00:00	17048:08:00	1:53:05

CIRCUIT SAIDI IS CALCULATED ACCORDING TO THE NUMBER OF CUSTOMERS IN EACH CIRCUIT RESPECTIVELY												
Running SAIDI Circuit 13	Running SAIDI Circuit 14	Running SAIDI Circuit 15	Running SAIDI Circuit 16	Running SAIDI Circuit 17	Running SAIDI Circuit 18	SAIDI Circuit EA4 & Royal Crest	Running SAIDI Circuit WR1	Running SAIDI Circuit WR2	Monthly SAIDI	Monthly Customer Minutes out of service	WEATHER SAIDI	
		0:00:05			0:00:17							
4:18:33	13:13:52	3:48:47	4:38:20	40:53:05	40:07:18				OCTOBER	0:00:01	3:30:00	
							0:00:09					
							0:01:12		NOVEMBER	1:44:12	15708:00:00	
4:20:22									DECEMBER	0:00:21	84:07:00	
4:20:27					0:04:00				JANUARY	0:00:06	94:19:00	
4:20:45									FEBRUARY	0:00:07	35:19:00	
	13:15:02							0:00:39				
		3:48:58										
		3:49:00										
								0:00:43				
							0:01:23					
4:22:50							0:01:27		MARCH	0:00:10	25:30:00	0:00:03
			4:38:32									
			4:40:00				0:02:07		APRIL	0:00:32	81:04:00	
								0:01:43	MAY	0:00:24	61:00:00	
								0:04:50				
								0:07:47				
								0:11:24				
4:29:46									JUNE	0:02:19	349:15:00	
	0:20:02		4:40:06						JULY	0:01:18	183:00:00	
4:38:50								0:01:00				
								0:07:00	AUGUST	0:02:18	346:00:00	
								0:11:35				
							0:03:49					0:00:10
							0:04:46					
							0:05:02					
								0:14:12	SEPTEMBER	0:01:17	49:00:00	
Circ 13	Circ 14	Circ 15	Circ 16	Circ 17	Circ 18	Circ EA4	Circ WR1	Circ WR2	Total	1:53:05		0:00:13
1655	539	1875	1842	209	213	165	1586	961	9045			

Twelve Month History	September 2018	
Total # Accounts	9045	
Total # Interruptions	35	
Sum Customer Interruption Durations	17048:08:00	hours:min:sec
# Customers Interrupted	7004	
SAIFI(APPA AVG. = 1.0)	.77	int./cust.
SAIDI (APPA AVG. = 1:00)	1:53	hours:min
CAIDI	2:26	hours:min/INT
ASAI	99.9991%	% available

- **SAIFI - System Average Interruption Frequency Index**
A measure of interruptions per customer (Per Year)

$$\text{SAIFI} = \frac{(\text{Total number of customer interruptions})}{(\text{Total number of customers served})}$$

- **SAIDI – System Average Interruption Duration Index**
A measure of outage time per customer if all customers were out at the same time (hours per year)

$$\text{SAIDI} = \frac{(\text{Sum of all customer outage durations})}{(\text{Total number of customers served})}$$

- **CAIDI – Customer Average Interruption Duration Index**
A measure of the average outage duration per customer (hours per interruption)

$$\text{CAIDI} = \frac{(\text{Sum of all customer outage durations})}{(\text{Total number of customer interruptions})} = \frac{\text{SAIDI}}{\text{SAIFI}}$$

- **ASAI – Average System Availability Index**
A measure of the average service availability (Per unit)

$$\text{ASAI} = \frac{(\text{Service hours available})}{(\text{Customer demand hours})} = \frac{8760 - \text{SAIDI}}{8760}$$

EACH POINT IS A 12 MONTH SAIDI HISTORY
1:00:00 = APPA BENCHMARK SAIDI

